

NAG Library Function Document

nag_opt_sparse_convex_qp_option_set_double (e04nuc)

1 Purpose

nag_opt_sparse_convex_qp_option_set_double (e04nuc) may be used to supply individual double optional arguments to nag_opt_sparse_convex_qp_solve (e04nqc). The initialization function nag_opt_sparse_convex_qp_init (e04npc) **must** have been called before calling nag_opt_sparse_convex_qp_option_set_double (e04nuc).

2 Specification

```
#include <nag.h>
#include <nage04.h>

void nag_opt_sparse_convex_qp_option_set_double (const char *string,
        double rvalue, Nag_E04State *state, NagError *fail)
```

3 Description

nag_opt_sparse_convex_qp_option_set_double (e04nuc) may be used to supply values for double optional arguments to nag_opt_sparse_convex_qp_solve (e04nqc). It is only necessary to call nag_opt_sparse_convex_qp_option_set_double (e04nuc) for those arguments whose values are to be different from their default values. One call to nag_opt_sparse_convex_qp_option_set_double (e04nuc) sets one argument value.

Each double optional argument is defined by a single character string in **string** and the corresponding value in **rvalue**. For example the following illustrates how the *LU* stability tolerance could be defined:

```
factol = 100.0;
if (illcon) factol = 5.0;
e04nuc ("LU Factor Tolerance", factol, &state, &fail);
```

Optional argument settings are preserved following a call to nag_opt_sparse_convex_qp_solve (e04nqc) and so the keyword **Defaults** is provided to allow you to reset all the optional arguments to their default values before a subsequent call to nag_opt_sparse_convex_qp_solve (e04nqc).

A complete list of optional arguments, their abbreviations, synonyms and default values is given in Section 12 in nag_opt_sparse_convex_qp_solve (e04nqc).

4 References

None.

5 Arguments

- | | | |
|----|--|--------------------------------|
| 1: | string – const char * | <i>Input</i> |
| | <i>On entry:</i> a single valid keyword of a double optional argument (as described in Section 12 in nag_opt_sparse_convex_qp_solve (e04nqc)). | |
| 2: | rvalue – double | <i>Input</i> |
| | <i>On entry:</i> the value associated with the keyword in string . | |
| 3: | state – Nag_E04State * | <i>Communication Structure</i> |
| | state contains internal information required for functions in this suite. It must not be modified in any way. | |

4: **fail** – NagError *

Input/Output

The NAG error argument (see Section 3.6 in the Essential Introduction).

6 Error Indicators and Warnings

NE_ALLOC_FAIL

Dynamic memory allocation failed.

See Section 3.2.1.2 in the Essential Introduction for further information.

NE_BAD_PARAM

On entry, argument $\langle value \rangle$ had an illegal value.

NE_E04_OPTION_INVALID

The supplied option is invalid. Check that the keywords are neither ambiguous nor misspelt. The option string is ' $\langle value \rangle$ ' and **rvalue** = $\langle value \rangle$.

NE_E04NPC_NOT_INIT

The initialization function `nag_opt_sparse_convex_qp_init` (e04npc) has not been called.

NE_INTERNAL_ERROR

An internal error has occurred in this function. Check the function call and any array sizes. If the call is correct then please contact NAG for assistance.

An unexpected error has been triggered by this function. Please contact NAG.

See Section 3.6.6 in the Essential Introduction for further information.

NE_NO_LICENCE

Your licence key may have expired or may not have been installed correctly.

See Section 3.6.5 in the Essential Introduction for further information.

7 Accuracy

Not applicable.

8 Parallelism and Performance

Not applicable.

9 Further Comments

`nag_opt_sparse_convex_qp_option_set_file` (e04nrc) or `nag_opt_sparse_convex_qp_option_set_string` (e04nsc) may also be used to supply double optional arguments to `nag_opt_sparse_convex_qp_solve` (e04nqc).

10 Example

See Section 10 in `nag_opt_sparse_convex_qp_option_set_file` (e04nrc).
